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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,556

09/19/2003

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58505 7590 10/09/2007
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EXAMINER

WOODS, ERIC V

ART UNIT

PAPER NUMBER

2628

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,556	LEAH ET AL	
	Examiner	Art Unit	
	Eric Woods	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks pages 8-16, filed 09.07.2007, with respect to the rejection(s) of claim(s) 1-18 under various statutes have been fully considered and are persuasive.

The objection(s) to the title stands withdrawn in view of applicant's amendments.

The objection to the specification stands withdrawn in view of applicant's 'clarifying comments.' (Remarks page 9)

Therefore, the rejection of claims 1, 3-9, and 11-17 under 35 USC 101 has been withdrawn in view of applicant's amendments to the claims.

The rejection of claim 18 under 35 USC 101 does not stand withdrawn.

There is no mention in the claims of how the priority is derived in the claim(s); indeed there is nothing stating that it cannot be the size of the data elements themselves (or the size of the class of statistical data, or some other characteristic). It is clearly noted that "so as to associate a priority with respective elements of the data in the data set" in claim 1 does *not* exclude the priorities being derived from the data set or the priority being the size of the objects in the data set itself.

Examiner notes that applicant has conceded (Remarks page 13, second paragraph: "...In *Ikehata*...the visualization in *Ikehata* conveys only one or two characteristics of the underlying statistical data. That is, the size of the class of statistical data, as illustrated by the size of the rectangle, and *possibly* the color

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of the rectangle may represent another characteristic data..." that Ikehata teaches a plurality of forms of sources of data and methods of visually representing different aspects of it. Specifically, Ikehata teaches: [0016-0022], Figures 4-10, [0052-0056], where this clearly shows that boxes are ordered with respect to priority.

Upon further consideration, the rejection of claims 1-18 under 35 USC 103(a) stands withdrawn in view of a change in examiner's interpretation of the claimed language.

The remainder of applicant's arguments is moot, as those grounds have been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of various references as set forth below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 18 stands rejected under 35 U.S.C. 101 because they recite non-statutory subject matter.

Specifically, claim 18 fails to comply with the Interim Guidelines for Patent Subject Matter Eligibility, page 55; specifically it recites nothing but the physical characteristics of a form of energy, such as frequency, voltage, or the strength of a magnetic field, defines energy or magnetism per se, and as such is a non-statutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover,

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it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in §101. Claim 18 is shown to be a signal via the specification (4:1-15, 6:6-25, etc), which defines 'computer-usable medium' to include a signal. ('...transmission media such as those supporting the Internet or an intranet...')

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 3-4, 11, 12, 15, 17, and 18 stand rejected under 35

U.S.C. 102(a) as being anticipated by Ikehata et al (US PGPub 2003/0158846 A1).

As for claim 1, 11, 17, and 18 (method, visualization *per se*, system, computer program product):

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A method of displaying data from a data set in a tree map visualization, comprising: (Ikehata Figures 8-10)

-Prioritizing the data in the data set so as to associate a priority with respective elements of the data in the data set; and (Ikehata [0019], where priority is value of data element itself. Ikehata further teaches such limitations [0014], and in Figures 6 and 4A/4B teaches such, as explained in [0019, 0021, 0055-0057, 0060-0061, 0077-0082, 0089], and states that section order could have been used. Additionally, section / class ordering flowchart is shown in Figure 7)

-Generating the tree map visualization based on the data set where a location of boxes in the tree map visualization is based on the priority associated with the corresponding element. (Ikehata shows in Figures 8-10 treemap visualizations, wherein their location is based on their size (as an example [0051-0053]))

-Displaying the tree map visualization on a display device (Ikehata Figures 4-10, display unit 14 Figure 1, [0044, 0049, 0061-0064]).

As to claim 17 specifically, the **processing means** corresponds to processing unit 11 in Figure 1 [0041].

As to claim 4, Ikehata teaches ranking elements based on their size, e.g. the data value itself [0016, 0019, 0021, etc].

As to claim 12, Ikehata teaches priority is derived from first data value in element (e.g. statistical order as explained above in rejection to claim 1).

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As to claim 15, see Ikehata Figure 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 7, 10, 13, 14, and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ikehata.

As to claim 2, clearly Ikehata has rectangular elements / boxes, which therefore have bounding boxes that are the same as those elements. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that if the elements are arranged in a priority pattern, the bounding boxes will be so arranged as well.

As to claim 3, Ikehata teaches that elements can be ordered in stripe based patterns, wherein the weight / rank / priority decreases from right to left, which would clearly yield (Figure 6, one form or the other) a graph that has

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diagonally increasing or decreasing priority, as priority would change in a monotonic linear fashion in a progression from one edge of the graph to the other, given the ordering pattern [0089]. It would have been obvious to one of ordinary skill in the art at the time the invention was made that such ranking will decrease diagonally because the stripe values / priorities get lower as the graph moves to the right and bottom.

As to claim 7, Ikehata does not expressly teach but examiner takes Official Notice of the fact that assigning objects a unique rank or order (especially in the case of Card, since priorities are focus-derived) is old and well known in the art, because it enables visualization of a data set in an absolute order rather than relative priorities.

As to claims 10 and 16, Ikehata does not expressly teach but Examiner takes Official Notice of the fact that, given that the data of Ikehata is organized in strips and objects can have relative priority and can be displayed in descending or ascending order, it would have been obvious to one of ordinary skill in the art to display items having the same or similar relative priorities in a data strip, in order to more clearly convey a measure of absolute vs. relative priority and data size of the data objects with respect to each other, even if this created some void or unused regions and that such is not in contravention of the fundamental techniques and principles of data visualization.

As to claims 13 and 14, Ikehata does not expressly teach but examiner takes Official Notice of the fact that nodes or elements can have multiple data values associated with them and further that the use of one of the other values

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for use in deriving priority is old and well known in the art and that the motivation to do so would be in order to allow data points that are n-dimensional to be sorted by their priorities or values along various axes of the actual data set (e.g. time, amplitude, etc).

Claim 6 is rejected under 35 USC 103(a) as unpatentable over Ikehata as applied to claim 1 and further in view of Nomiyama et al (US PGPub 2002/0091684 A1).

As to claim 6, Ikehata fails to teach extracting priority information from metadata, but Nomiyama teaches a system that derives information from the internet via obtaining elements that have associated metadata (Abstract) and the element sets have an importance level and element sets are displayed in the order of the importance level [0105], where it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ikehata in the manner stated above because this is advantageous [0032, 0015-0020] for the reason(s) that the user can obtain elements from various locations and visualize composite data sets, and have annotation and other information about a statistical data value associated with the metadata tag in the metadata database 12 of Nomiyama.

Claims 5, 8, and 9 are rejected under 35 USC 103(a) as unpatentable over Ikehata as applied to claim 1 and further in view of Shahine et al (US PGPub 2004/0070627 A1).

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As to claims 5 and 8, Ikehata fails to expressly teach, but Shahine et al teaches that **the priority associated with a respective element is dynamically defined** (that is, that the priority is based on a data value not utilized in generating the treemap) (Abstract, [0009-0011, 0015, 0022, etc], claim 47 {"...wherein assigning a priority to each data element comprises prioritizing each data element via a user interface..."}). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ikehata to utilize the prioritization of Shahine because it allows easier operation on subset of user data and further allows the user to alter such preferences [0010-0011] Shahine.

As to claim 9, Ikehata fails to expressly teach but Shahine et al teaches that **the priority associated with a respective element is statically defined** (Abstract, [0009-0011, etc], claim 46 {"... wherein assigning a priority to each data element comprises using a predefined priority list to prioritize each data element..."}). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ikehata to utilize the prioritization of Shahine because it allows predefined priority lists for large data set to be utilized [0010].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Woods

10/1/2007


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER